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Aude Livoreil

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EXAMINER

MATTISON, LORI K

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,064	<b>Applicant(s)</b> LIVOREIL ET AL.	
	<b>Examiner</b> LORI MATTISON	<b>Art Unit</b> 1619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 36-39 and 41-74 is/are pending in the application.
- 4a) Of the above claim(s) 56-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 36-39 and 41-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Response to Amendments/Arguments**

1. Applicant's arguments and amendments to claims 36-39, 41-58, 64, and 67-72 filed 11/10/2010 are acknowledged and have been fully considered. Any rejection and/or objection not specifically addressed below in original or modified form is herein withdrawn.
2. Claims 36-39 and 41-74 are pending, claims 40 is cancelled, claims 56-74 remain withdrawn for the reasons of record and claims 36-39 and 41-55 have been examined on the merits.

### **MAINTAINED REJECTIONS**

#### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36, 37, 39, 45 and 55 **remain** rejected under 35 U.S.C. 102(b) as being anticipated by SAMAIN (See PTO-892 mailed on 5/11/2010) for reasons of record.

SAMAIN discloses a two polymer reagent composition (Composition C). When applied to hair the Polymers A and B react to form a coat (i.e. the polymer "B" segment grafts to form a coat with polymer A) (page 5, paragraphs 123-126). Composition C comprises 50% of PAMAM dendrimers (i.e. at least one polymer whose polymer chain comprises at least two amines, which has end primary amines; this is polymer B) and is devoid of sulfur, silicone, or amido groups. The remaining polymer is Gantrez S-97BF (i.e. a polyhydroxylated compound; this is polymer

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A) (page 6, paragraph 120). Gantrez-S-97BF is aqueous solution, thus the composition comprises water solvent. SAMAIN discloses applying compositions C to hair (i.e. polymers A and B). The deposit was dried with a hair dryer for 45 minutes demonstrating that the polymer has formed while water (i.e. the cosmetically acceptable solvent) remains (paragraph 37). Furthermore, SAMAIN discloses a test for polymers A and B to determine whether polymers A and B have chemically complementary groups (paragraph 13). This involves mixing polymers A and B on a glass slide to obtain a dry deposit and immersing the polymer solid in a 10 grams of solvent (i.e. water; paragraphs 13-22).

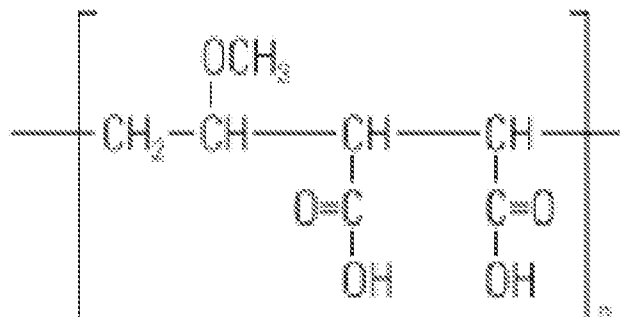
#### **RESPONSE TO REMARKS OVER SAMAIN**

In the traverse of the rejection of claims 36, 37, 39, 45 and 55 under 35 U.S.C. 102(b) over SAMAIN, Applicant alleges that SAMAIN does not teach a polymer compound that is chemically bound to polyhydroxylated compounds (Reply, page 12, paragraph 4). Applicant further alleges that the two polymers of SAMAIN do not react together to form covalent bonds before applying the cosmetics composition to a keratin material and are only capable of reacting together after applying the cosmetic composition to a keratin material (Reply, page 12, paragraph 4). Applicant further alleges that the polymers not reacting together before application to a keratin material is an essential feature of SAMAIN (Reply, page 12, paragraph 4).

Applicant's traverse has been considered but is not persuasive.

Composition C of SAMAIN comprises Gantrez S-97BF. As evidenced by Gantrez S-97 BF Solutions, the chemical structure of Gantrez S-97 BF is :

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**Chemical Structure**

. Clearly, one Gantrez S-97

BF monomer comprises two hydroxyl groups; thus Gantrez S-97 BF is a polyhydroxylated compound.

With regard to Applicant's traverse that polymers A and B are only capable of reacting together after applying the composition to a keratin material, this being the essential feature of SAMAIN, it is observed that SAMAIN discloses a test for polymers A and B to determine whether polymers A and B have chemically complementary groups (paragraph 13). This involves mixing polymers A and B on a glass slide to obtain a dry deposit (i.e. the polymers have reacted and formed bonds) and immersing the polymer solid in a 10 grams of solvent (i.e. water; paragraphs 13-22). SAMAIN teaches a test in which polymers A and B are reacted on a glass slide (SAMAIN, paragraphs 14-23).

**MAINTAINED REJECTIONS****Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 36- 39, 41, 45-50, 54 and 55 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over SAMAIN (See PTO-892 mailed on 5/11/2010) for reasons of record.

**Claim Summary:** The modified polymer may be present in an amount from 0.01 to 40 % by weight or in an amount from 1 to 10% by weight (instant claims 47 and 48). The polymer may be a basic amino acid chosen from ornithin, asparagine, glutamine, lysine, and arginine (instant claim 38). The polymer of the composition may comprise polyvinyl alcohol segments (instant claim 41). The polymer may be polyethyleneimine-polyvinyl alcohol (instant claim 46). The composition may comprise a provitamin (instant claim 54). The composition may comprise conditioning agents selected from cyclic silicones and styling agents which are chosen from anionic, nonionic, and amphoteric polymers (instant claims 49-51).

The limitations of instant claims 36, 37, 39, 45 and 55 are addressed above.

SAMAIN teaches that the polymer comprises at least one chemical from the functional group A or B (page 2, paragraph 65). SAMAIN goes on to teach that each polymer contains at least two sets of identical chemical functional groups (A, A or B, B) in order to bond with at least other polymers (page 3, paragraph 66). SAMAIN teaches that polylysine,

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polyethyleneimines, polyvinyl alcohol, and PAMAM dendrimer are functional "B" polymers (page 3, paragraphs 69, 70, 72 and 85-90). Furthermore, SAMAIN teaches that polylysine, polyethyleneimines, polyvinyl alcohol, and PAMAM dendrimer may be paired with maleic anhydride (i.e. Gantrez S-97BF) (page 3, paragraph 69, 70 and 72).

SAMAIN teaches that the two polymers of his invention are present in an amount from 0.05 to 50% by weight (page 4, paragraph 114). These two polymers spontaneously react at with each other and deposit on the hair and remain (page 4, paragraph 100-102).

SAMAIN also embodies a composition which includes panthenol in the cross linked deposit (page 5, paragraphs 139 and 141). One of ordinary skill in the art would recognize that panthenol is a provitamin with conditioning (i.e. softening) properties. SAMAIN also teaches inclusion of volatile cyclic silicones in the composition to form a water/solvent mixture (page 4, paragraph 116).

SAMAIN does not embody a polymer containing at least two units of one or more basic amino acids which is lysine in Composition C as set forth by instant claim 38.

SAMAIN does not embody polyethyleneimine-polyvinyl alcohol as the polymer in Composition C as set forth by instant claim 46.

SAMAIN does not embody polyhydroxylated compounds being polyvinyl alcohol segments in the polymer of Composition C as set forth by instant claim 41.

SAMAIN does not embody the polymer in an amount ranging from 0.01 to 40% by weight in Composition C as set forth by instant claim 47.

SAMAIN does not embody the polymer in an amount ranging from 1 to 10% by weight in Composition C as set forth by instant claim 48.

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SAMAIN does not embody inclusion of a provitamin in composition C as set forth by instant claim 54.

SAMAIN does not embody inclusion of a conditioning agent or styling agent in Composition C as set forth by instant claim 49.

SAMAIN does not embody inclusion of cyclic silicones in composition C as set forth by instant claim 50.

With regard to instant claim 38, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to have looked to SAMAIN'S teachings and modified SAMAIN'S polymer to comprise polylysine because SAMAIN contemplates a polymer containing at least two chemically identical functional groups (A,A, B,B) and polylysine and PAMAM dendrimer are taught to be combined with maleic anhydride in Gantrez. The skilled artisan would have been motivated in order to provide better conditioning and combability to the hair in which the composition is applied.

With regard to instant claims 41 and 46, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to have looked to SAMAIN'S teachings and substituted SAMAIN'S polymer of Composition C with polyethyleneimine-polyvinyl alcohol polymers because SAMAIN teaches use of two chemically identical functional groups (A, A, or B, B) to bond to at least two other polymers and polyethyleneimines, dendrimers, and polyvinyl alcohols are taught to be polymers which all bind with maleic anhydride. Thus one of ordinary skill in the art would be aware that they may substitute one for the other. The skilled artisan would have been motivated to do so in order to modify the molecular weight of the formed composition, its feel, and deposition.



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With regard to instant claims 47 and 48, the adjustment of particular conventional working conditions (e.g. determining result effective amounts of two polymers to place in SAMAIN'S composition) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the ordinary artisan with said artisan recognizing that the two polymers react together to form a big polymer coating (i.e. one modified polymer) on the hair as taught by SAMAIN. Since the artisan of ordinary skill recognized that coating provides holding effects, softness and sheen, the artisan of ordinary skill would have provided a result effective amount to accomplish desired goal (i.e. conditioning , shine, or hair styling)(page 1, paragraphs 2-4).

With regard to instant claim 54, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to have looked to SAMAIN'S teachings and modified Composition C to include the provitamin panthenol in the composition because SAMAIN teaches inclusion of the cosmetic adjuvants in other composition which deposit on hair. The skilled artisan would have been motivated to do in order to provide the provitamin to the hair, making this hair more soft and easier to comb.

With regard to instant claims 49 and 50, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to have looked to SAMAIN'S teachings and added a cyclic silicone to the composition because SAMAIN teaches that cyclic silicones may be added to water to yield water/solvent mixtures. The skilled artisan would have been motivated to do so in order to provide additional sheen to the hair. Providing sheen to the hair is one of the goals of SAMAIN'S invention and cyclic silicones are known in the cosmetic arts to provide shine (page 1, paragraph 2).

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A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (In re Opprecht 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); In re Bode 193 USPQ 12 (CCPA) 1976). In light of the foregoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### **RESPONSE TO REMARKS**

In the traverse of the rejection of claims 36-, 41, 45-50, 54 and 55 under 35 USC 103 (a), Applicant alleges that the Examiner has not considered the teachings of SAMAIN as a whole and that the polymers are not covalently bonded in the cosmetic composition (Reply, page 14, paragraphs 1 and 2). Applicant further alleges that the composition of SAMAIN would be sticky upon Application whereas the instant invention does not have a sticky feel (Reply, page 15, paragraphs 3 and 4). In the traverse of the rejection of the claims under 35 USC 103(a), Applicant further alleges that the Examiner is picking and choosing among numerous polymers; there is not reason to pick and choose (Reply, page 16, paragraph 2). Applicant also alleges that there is a lack of predictability (Reply, page 16, paragraph 2).

Applicant's traverse has been considered but is not persuasive.

With regard Applicant's allegation that the polymers are not covalently bound in the cosmetic composition, it is observed that SAMAIN discloses applying compositions C to hair

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(i.e. polymers A and B). The deposit was dried with a hair dryer for 45 minutes demonstrating that the polymer has formed in the cosmetic composition while in the presence of water from the Gantrez compound (i.e. it takes 45 minutes to drive off the water, and the polymers are forming during this time; thus the water and polymer co-exist).

With regard to Applicant's traverse pertaining to the stickiness of the prior art composition and their invention, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., lack of stickiness) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regard to Applicant's allegation that the Examiner is picking and choosing and that there is no expectation of success, one of ordinary skill in the art would have had an expectation of success based upon the teachings of suitability by SAMAIN along with specific recitations by SAMAIN from a limited list complete with the manufacturers from which the polymers may be purchased (paragraphs 78-99). This is specific guidance from a limited list, complete with manufacturer's in which to commercially purchase the polymers, would have lead one of ordinary skill in the art to select such polymers.

#### **MAINTAINED REJECTIONS**

Claims 52 and 53 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36-39, 41, 45-50, 54 and 55 above, and further in view of CLARKE (See PTO-892 mailed on 5/11/2010) for reasons of record.

**Claim Summary:** The conditioning agent is present in an amount of 0.01 to 40% or 0.1 to 20% by weight relative the total weight of the composition (instant claims 52 and 53).

SAMAIN does not teach that the cyclic silicone is present in an amount from 0.01 to 40% by weight as set forth by instant claim 52.

SAMAIN does not teach that the cyclic silicone is present in an amount from 0.01 to 20% by weight as set forth by instant claim 53.

CLARKE teaches hair rinse conditioners (title). In a preferred aspect of the invention CLARKE teaches use of 0.5-1% cyclomethicone (i.e. a volatile cyclic silicone solvent) in the hair conditioner (column 3, lines 30-40). CLARKE teaches that CYCLOMETHICONE provides conditioning (column 5, lines 45-60).

With regard to instant claims 52 and 53, the adjustment of particular conventional working conditions (e.g. determining result effective amounts of the cyclomethicone conditioning agent) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the ordinary artisan. Said artisan, at the time the invention was made, recognized from CLARKE'S teachings that cyclomethicone is a conditioning agent which may be utilized in hair conditioning compositions in an amount from 0.5-1% (column 3, lines 30-40).

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (In re Opprecht 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); In re Bode 193 USPQ 12 (CCPA) 1976). In light of the foregoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of

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the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### **RESPONSE TO REMARKS**

In the traverse of the rejection of claims 52 and 53 under 35 USC 103(a) over SAMAIN in view of CLARKE, Applicant alleges that SAMAIN and CLARKE are contradictory since SAMAIN is drawn to a composition that is maintained on the hair through repeated washings whereas that of the CLARKE states that the preferred aspect is an easily removed hair rinse (Reply, page 17, paragraph 3).

Applicant's traverse has been considered but is not persuasive

SAMAIN teaches that the solvent invention may include volatile cyclic silicones (SAMAIN'S claim 22). SAMAIN also teaches that his composition is for the care of hair (paragraph 113). CLARKE teaches use of 0.5-1% cyclomethicone (i.e. a volatile cyclic silicone solvent) in the hair conditioner (column 3, lines 30-40). CLARKE teaches that CYCLOMETHICONE provides conditioning (column 5, lines 45-60). Therefore, it would have been obvious to utilize the cyclomethicone in the percentage taught by CLARKE in SAMAIN's composition because cyclomethicone is a conditioning agent which may be utilized in hair conditioning compositions in an amount from 0.5-1% (column 3, lines 30-40).

### **MAINTAINED REJECTIONS**

Claim 51 **remains** rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36-39, 41, 45-50, 54 and 55 above, and further in view of DODD (See PTO-892 mailed on 5/11/2010) for reasons of record.

**Claim Summary:** The styling agents in the composition are amphoteric polymers (instant claim 51).

SAMAIN teaches inclusion of fixing polymers in his composition (page 4, paragraph 115).

SAMAIN does not teach inclusion of amphoteric fixing polymers as set forth by instant claim 51.

DODD teaches hair conditioning compositions (title). Dodd teaches that amphoteric polymers are hair hold polymers (column 10, lines 10-35).

With regard to instant claim 51, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to have to have modified SAMAIN'S invention by adding amphoteric polymers to SAMAIN'S composition because SAMAIN teaches inclusion of hair fixing polymers and amphoteric polymers are hair fixing polymers taught for use in hair conditioning compositions by DODD (column 10, lines 10-35). The skilled artisan would have been motivated to do so in order to make the hair which has the treating polymers bound to it, more manageable.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (In re Opprecht 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); In re Bode 193 USPQ 12 (CCPA) 1976). In light of the foregoing discussion, the Examiner concludes that the subject matter defined by the instant

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claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### **RESPONSE TO REMARKS**

In the traverse of claim 51 under 35 USC 103(a) over SAMAIN and DODD, Applicant alleges that SAMAIN and DODD have contradictory teachings because the composition taught by SAMAIN are thick whereas the composition taught by DODD has a low viscosity (Reply, page 18, paragraph 4).

Applicant's traverse has been considered but is not persuasive.

In response to applicant's argument that the compositions taught by SAMAIN AND DODD have contradictory thicknesses the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). SAMAIN teaches that his composition is for care of the hair, hairstyle fixing and holding, and re-shaping (paragraph 113). SAMAIN teaches inclusion of fixing polymers in his composition (page 4, paragraph 115). DODD's composition is a hair conditioning composition (i.e. hair care composition) which utilizes amphoteric hair hold polymers. The skilled artisan would have been

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motivated to include the amphoteric hair hold polymers of Dodd in the composition of Samain in order to make the hair more manageable and easy to style.

### **MAINTAINED REJECTIONS**

Claim 42 **remains** rejected under 35 U.S.C. 103(a) as being unpatentable over SAMAIN as applied to claims 36- 39, 41, 45-50, 54 and 55 above, and further in view of MAKSIMOSKI and HANNICH (See PTO-892 mailed on 5/11/2010) for reasons of record.

**Claim Summary:** Polyhydroxylated portion of the polymer comprises polyethylene glycol segments (instant claim 42).

SAMAIN teaches inclusion of polymers with hydroxyl functional groups (page 3, paragraph 69). The hydroxyl functional groups may be polyvinyl alcohols (page 3, paragraph 69).

SAMAIN does not teach inclusion of polyethylene glycol in his polymers as set forth by instant claim 42.

MAKSIMOSKI teaches that polyvinyl alcohol is a hair setting polymer (column 15, lines 45-55).

HANNICH teaches waxy polyethylene glycols provide hair setting and water solubility (page 1, paragraphs 2, and 7-14).

With regard to instant claim 42, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to have substituted the polyvinyl alcohol moieties with polyethylene glycol because both types of polymers are utilized in hair care compositions to provide hair setting. The skilled artisan would have been motivated to do



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so in order to better solubilize the polymer in the water solvent taught by SAMAIN while still providing good setting properties to the polymer.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (In re Opprecht 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); In re Bode 193 USPQ 12 (CCPA) 1976). In light of the foregoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### **RESPONSE TO REMARKS**

In the traverse of the rejection of claim 42 under 35 USC 103(a) over SAMAIN in view of MARKSIMOSKI, and HANNICH, Applicant alleges that Makimoski and Hannich teach polymers, not segments, and the artisan of ordinary skill in the art would find no reason to use a solubilized component and use it as a segment chemically bound to another polymer (Reply, page 19, paragraphs 2-4).

Applicant's traverse has been considered but is not persuasive.

With regard to Applicant's traverse that one of ordinary skill in the art would find no reason to utilize a solubilized component (i.e. the hydrophilic polymer polyethylene glycol) and use it as a segment bound to another feature, the Examiner respectfully points out that the rationale expressed by Applicant is the basis of the SUMAIN. SUMAIN takes copolymers such

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and reacts them together to make larger polymers. The copolymers become a segment of the larger polymer. SAMAIN teaches inclusion of polymers with hydroxyl functional groups that are derived from polyvinyl alcohol (page 3, paragraph 69). MAKSIMOSKI teaches that polyvinyl alcohol is a hair setting polymer (column 15, lines 45-55) and HANNICH teaches waxy polyethylene glycols provide hair setting and water solubility (page 1, paragraphs 2, and 7-14). Both polymers comprise hydroxyl groups, therefore it would be obvious to substitute one hair setting polymer for the other.

### **MAINTAINED REJECTIONS**

Claim 43 and 44 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36-39, 41, 45-50, 54 and 55 above, and ROWE (See PTO-892 mailed on 5/11/2010) for reasons of record.

**Claim Summary:** The hydrophobic segment of the polymer is chosen from fatty carbon chains (instant claim 43). These chains are recited to be C10-C50 hydroxyalkyl radicals (instant claim 44).

SAMAIN teaches that cinnamic acid and its esters are suitable functional groups for the A group polymers (page 1, paragraph 25).

SAMAIN does not teach hydrophobic chains chosen from fatty carbon atoms as set forth by instant claim 43.

SAMAIN does not teach C12-C50 fatty acid esters as set forth by instant claim 44.

ROWE teaches curable polymeric compositions comprising natural or synthetic rubber (title). ROWE goes on to teach that curable reagents which contain carboxyl groups include

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cinnamic acid and fatty acids having 6 or more carbon atoms like linoleic acid (column 7, lines 45-50).

With regard to instant claims 43 and 44, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have modified SAMAIN'S composition by substituting the cinnamic acid ester for fatty acid esters having 6 or more carbon atoms because both functional groups comprise carboxyl groups which are used in polymers that "cure" and SAMAIN'S composition literally cures to hair to make films. The skilled artisan would have been motivated to do so in order to modify the polymer film which is bond to hair.

With regard to the length of the carbon atoms on the fatty acid chain, the adjustment of particular conventional working conditions (e.g. determining result effective lengths of the carbon chains) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the ordinary artisan, with said artisan recognizing that the carbon chain of the fatty acid on the Group A polymer must be long enough to find and interact with the functional groups of the Group B polymer so that they may be able to react together and form a film.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). In light of the foregoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole

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was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### **RESPONSE TO REMARKS**

In the traverse of the rejection of claims 43 and 44 under 35 USC 103(a) over SAMAIN and ROWE, Applicant alleges that Rowe is directed to photopolymerizable compositions whereas SAMAIN excludes photoactivatable chemical functional groups (Reply, page 20, paragraphs 4 and 5). Therefore, the rejection is improper.

Applicant's traverse has been considered but is not persuasive.

SAMAIN exemplifies use of a hair dryer (i.e. hot air) in conjunction with the polymer in the examples. ROWE teaches that the polymers may be cured by exposure to actinic light and/or cured by heat instead of or before or after exposure to actinic light (ROWE, column 11, lines 5-20). M.P.E.P. § 2121 teaches that prior art is prior for all that it teaches by stating, "Even if a reference discloses an inoperative device, it is prior art for all that it teaches. Beckman Instruments v. LKB Produkter AB, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989)." Thus, the rejection is proper and is maintained.

### **Conclusion**

No claims are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to LORI MATTISON whose telephone number is (571)270-5866. The examiner can normally be reached on 8am-6pm (Monday-Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Wax can be reached on (571)272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LORI MATTISON/  
Examiner, Art Unit 1619

/Shanon A. Foley/  
Primary Examiner, Art Unit 1619